



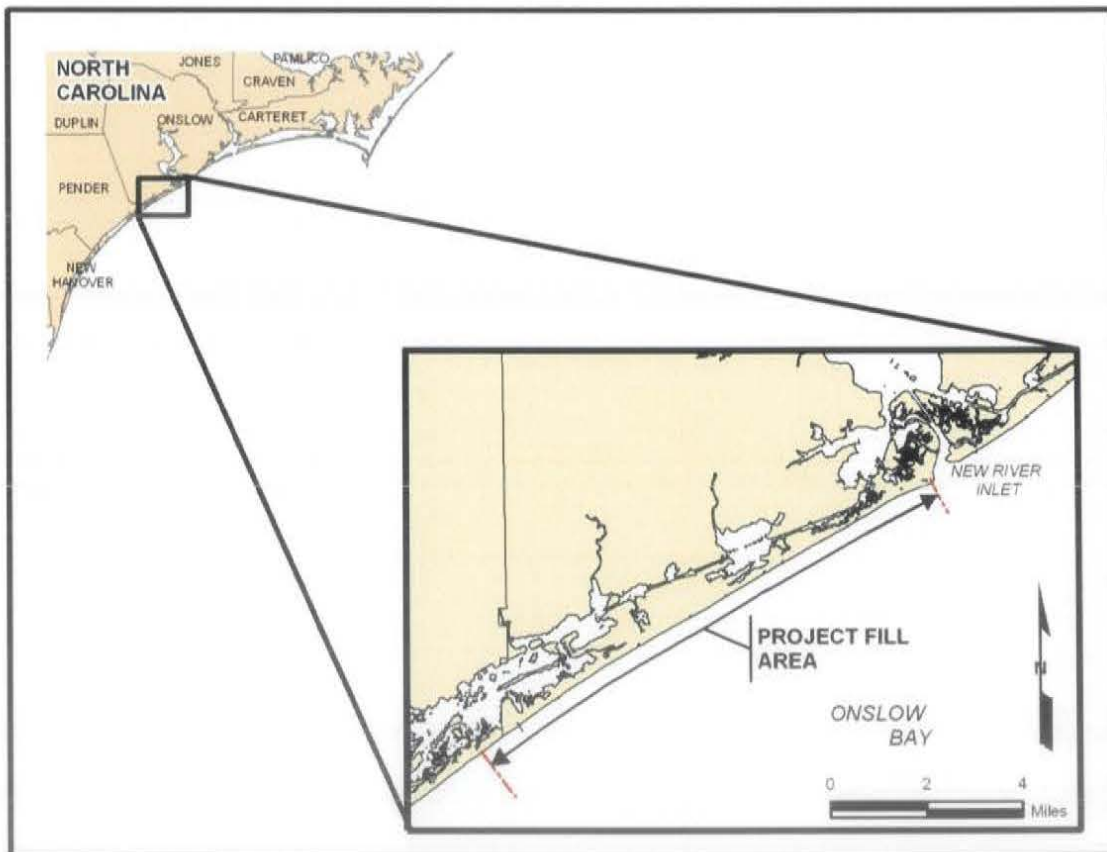
**U.S. Army Corps
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Wilmington District

**VOLUME I OF III
SECTIONS 1-8**

**FINAL
ENVIRONMENTAL IMPACT STATEMENT
DECEMBER 2009**

NORTH TOPSAIL BEACH SHORELINE PROTECTION PROJECT

NORTH TOPSAIL BEACH, NORTH CAROLINA



For more information and comments, contact Mr. Mickey T. Sugg, U.S. Army Corps of Engineers, Regulatory Division, P.O. Box 1890, Wilmington, North Carolina 28402-1890, phone (910) 251-4811, facsimile (910) 251-4025 or via e-mail: mickey.t.sugg@saw02.usace.army.mil



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**FINAL
ENVIRONMENTAL IMPACT STATEMENT**

**NORTH TOPSAIL BEACH SHORELINE PROTECTION PROJECT
NORTH TOPSAIL BEACH, NORTH CAROLINA**

PREPARED BY:

COASTAL PLANNING & ENGINEERING OF NORTH CAROLINA, INC.

PREPARED FOR:

NORTH TOPSAIL BEACH, NORTH CAROLINA

SUBMITTED TO:

**U.S. ARMY CORPS OF ENGINEERS
WILMINGTON DISTRICT**

DECEMBER 2009

North Topsail Beach Shoreline Protection Project
Final Environmental Impact Statement

1.0 PROJECT PURPOSE

The Town of North Topsail Beach is seeking Federal and State permits to allow for the implementation of a non-Federal shoreline and inlet management project that would preserve the Town's tax base, protect its infrastructure, and maintain its tourist oriented economy. The most pressing shoreline management issue facing the Town of North Topsail Beach is associated with the impacts of New River Inlet on the extreme northeast end of the Town's shoreline. In addition, the Northern 7.25 miles of North Topsail Beach, with the exception of two relatively short segments (approximately 1000 ft in length) at the north end of the Town, is within a Coastal Barrier Resource Act (CBRA) zone and thus are not eligible to be part of the Federal Shore Protection Project for North Topsail Beach and Surf City. Through the implementation of this project the Town is attempting to provide long term storm protection to the northern 7.25 miles comparable to that which will be provided by the Federal Shore Protection Project. In addition, it is the Town's desire to provide interim fill to the 3.85 mile stretch of beach included in the Federal Project to provide erosion mitigation until such time as the Federal Project is constructed.

In 1996, North Topsail Beach was severely impacted by Hurricanes Bertha and Fran; to a lesser extent Hurricane Bonnie in 1998, and Hurricanes Dennis, Floyd and Irene in 1999. North Topsail Beach suffered considerable damage as a result of the severely weakened dune system resulting from the effects of Hurricane Bertha followed by the high storm tides that accompanied Fran. The beach has recovered to some degree as a result of natural processes and the Town of North Topsail Beach's efforts to rebuild the frontal dune system. However, the homes and infrastructure located along the 11.1 miles of oceanfront shoreline of North Topsail Beach remains extremely vulnerable and the current erosion problem is threatening the stability of homes and infrastructure located along this shoreline.

Long-term shoreline erosion at the north end of Town and shoreline fluctuations, caused by uncontrolled changes in the position and alignment of the ocean bar channel of New River Inlet, have made the north end properties especially vulnerable to erosion. During the past years, 17 duplex structures located at the extreme north end of Town, which have a total tax value of over \$17 million, have become imminently threatened. Numerous attempts have been made by individual property owners as well as the Town to protect the threatened duplexes with sandbag revetments and the pushing of sand or beach scraping; however, these mechanisms have failed to provide any substantial degree of long-term protection. Two (2) of the imminently threatened duplexes were relocated to other parts of North Topsail Beach at the expense of the property owners. Six (6) of the remaining duplexes had been declared uninhabitable due to the loss of water, sewer, and electrical connections and were removed in

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February 2009 at a cost to the Town of over \$2 million (L. Burleson, pers. comm.).

The results of a geomorphic analysis (Appendix B – Final Engineering Report) strongly suggest that a channel oriented perpendicular to the adjacent shorelines and located closer to the north end of North Topsail Beach would provide positive shoreline benefits for the adjacent oceanfront shorelines. Seven (7) alternatives have been considered in this Final Environmental Impact Statement (FEIS), with Alternative 3 identified as the Applicant's Preferred Alternative. Alternative 3 includes the implementation of an inlet management plan for New River Inlet and the construction of a beach fill project along 11.1 miles of the Town's shoreline. The inlet management plan includes repositioning the main ocean bar channel to a more southerly alignment (i.e. along an azimuth of approximately 150°) and periodic maintenance of the preferred position and alignment approximately every four years. An upland disposal site (Island #143) will also be used to dispose of approximately 100,000 cy of incompatible beach material excavated from the main ocean bar channel.

The Town of North Topsail Beach is considering constructing its shoreline protection project in phases to correspond with its anticipated funding stream that would be generated from multiple sources (Alternative 3 – Applicant's Preferred Alternative, see Section 3.2.3 for more detailed information). The phased construction plan includes relocation of the main channel in New River Inlet with disposal of the channel material along the northern 12,000 feet of its shoreline (North and Central Sections) and nourishment of the remaining portions of the town, including the South Section, using material from the offshore borrow area. The Town anticipates raising \$3.0 million every year through various funding sources.

The first phase (Phase I) of construction would occur between 16 November 2010 and 31 March 2011 (environmental dredging window) and would involve the relocation of the New River Inlet (NRI) channel. Phases II, III, IV, and V would then take place every other year during the same November through March dredging window. The Town's shoreline protection project also includes periodic maintenance of the realigned channel in New River Inlet approximately every four years with disposal of the maintenance material along the North and Central segments.

This FEIS evaluates a full range of alternative erosion response measures including no action, abandonment/or relocation of threatened homes, and realignment of the Inlet channel between North Topsail Beach and Onslow Beach. The following document describes the permit area, assesses shoreline erosion problems, environmental considerations and provides project alternatives.

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1.1 PROJECT LOCATION

North Topsail Beach and New River Inlet are located in Onslow County, North Carolina. Onslow Beach, located on the northeast side of New River Inlet, is owned and maintained by the US Marine Corps (USMC) Camp Lejeune military base. The residentially developed Town of North Topsail Beach is located to the southwest of the Inlet. The Inlet is available for use by both commercial and recreational boats, as well as military vessels operating out of the USMC Camp Lejeune, providing access to the Atlantic Ocean via the Atlantic Intracoastal Waterway (AIWW) and Onslow Bay.

The Town limit of North Topsail Beach is bordered to the southwest by Surf City and to the north by Sneads Ferry and the USMC Camp Lejeune military base. The Town of North Topsail Beach comprises 15.5 miles of inlet and oceanfront shoreline along Topsail Island, a barrier island formation. The area encompassed by the proposed shoreline erosion protection is along 11.1 miles of North Topsail Beach. Refer to Figure 1.

1.2 NEW RIVER INLET HISTORY

Dr. William J. Cleary of the University of North Carolina at Wilmington (UNCW) conducted a detailed geomorphic analysis of New River Inlet. The geomorphic analysis of the Inlet was conducted through interpretation of ortho-rectified aerial photographs collected between March 1962 and March 2003, as well as corresponding shoreline changes along Onslow Beach and North Topsail Beach.

Although the main focus of the analysis covered a period from March 1962 to March 2003, Dr. Cleary identified four distinct phases in the evolution of New River Inlet since 1938 (see Appendix B – Final Engineering Report).

1. The first phase of inlet evolution covered the period from 1938 to 1945. During this time, the Inlet was adjusting to the new hydrodynamic conditions associated with the construction of the AIWW and the channel connecting the AIWW with the City of Jacksonville. During this initial phase, the ebb tide delta began to enlarge and the Inlet throat migrated to the southwest toward North Topsail Beach. The bar channel was also significantly skewed toward North Topsail Beach.
2. The second phase of inlet evolution covered the period from 1945 to 1962. During this phase, the Inlet assumed morphologic features recognized today including an enlarged ebb tide delta and extensive marginal flood channel on the northeast or Onslow Beach side of the Inlet. The growth of the ebb tide delta stabilized by the mid-1950's. However, the ebb tide delta continued to fluctuate in size in response to varying climatic conditions, particularly the advent of tropical storms and nor'easters.

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During most of this period, the ocean bar channel was oriented either perpendicular to the adjacent shorelines or skewed slightly toward North Topsail Beach.

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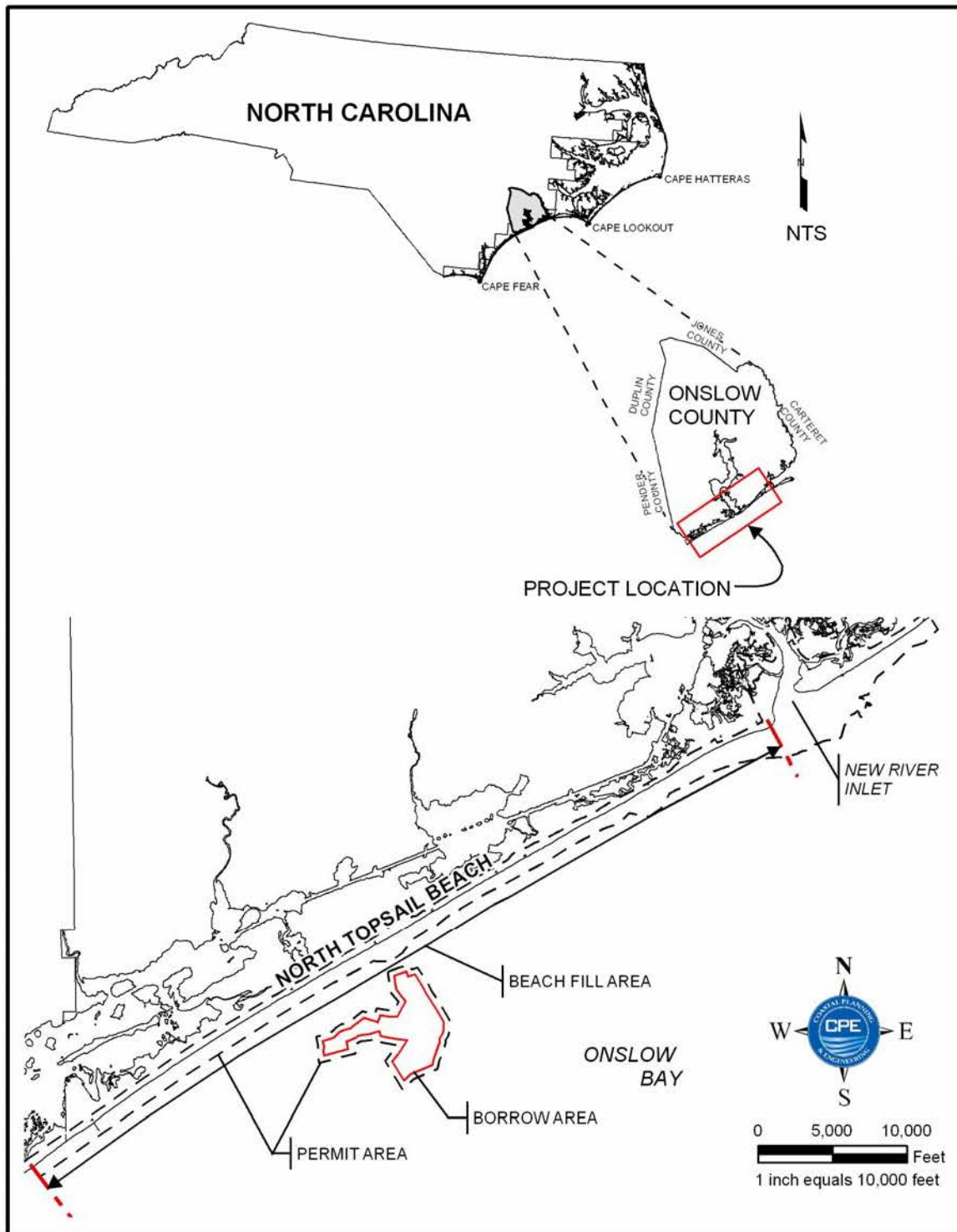


Figure 1 – Project Location Map

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3. The third distinct evolutionary phase covers the period from 1962 to 1988 during which repetitive maintenance dredging of the ebb channel (channel dredging began in 1964) appeared to cause the apex of the delta to extend farther seaward. During this third phase of inlet evolution, the apex of the delta was offset to the southwest or off the north end of North Topsail Beach. These changes resulted in an asymmetric shape of the ebb tide delta in which most of the surface area of the delta was located on the northeast or Onslow Beach side of the bar channel.
4. The fourth and final phase of the Inlet evolution analysis covers the period from 1988 to the present time, during which the bar channel has been oriented to the southeast toward Onslow Beach. More detailed discussions of the changes observed in New River Inlet and the adjacent shorelines over the last two periods are provided in Appendix B - Engineering Report.

1.2.1 Initial Authorization

Federal authorization to conduct channel maintenance was granted under authority of Section 107 of the Rivers and Harbors Act of 1960 (P.L. 86-645). The authorization for New River included a 90-foot wide by 6-foot deep MLW channel connecting to the Atlantic Ocean through Cedar Bush Cut (channel from the AIWW to New River Inlet) and across the ocean bar of New River Inlet. Due to the limitations of dredging equipment capable of working in a shallow tidal inlet, maintenance of this seaward section of the authorized channel was not initiated until 1964.

Maintenance dredging in New River Inlet has generally increased since its initiation in 1964, reaching a peak between 1996 and 2000; a four-year timeframe that corresponds to the occurrence of the moderate to severe tropical storms and hurricanes referred to previously. Dredging in New River Inlet begins in the Inlet gorge, i.e., the deepest portion of the channel located between North Topsail Beach and Onslow Beach, and extends across the ebb tide delta. Based on the U.S. Army Corps of Engineers (USACE) – Wilmington District annual navigation reports from 1965 through 2002, an average of 114,263 yd³ of material is removed during each annual maintenance dredging event (USACE, 1965-2002). No attempt is made to maintain a fixed channel alignment; rather the dredge follows the naturally deep channel that exists at the time of the maintenance operation as mandated by the USACE's Directive.

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1.2.2 Supplemental Appropriation

Funds for maintenance dredging of both the ocean bar channel and AIWW connecting channels are included in the general operation and maintenance (O&M) budget developed each year by the USACE - Wilmington District. Based on annual navigation reports from 1965 through 2002, approximately \$19 million has been spent on maintenance dredging of New River Inlet, with an average annual cost of \$532,670. Historically, the USACE – Wilmington District has received approximately \$750,000 for annual maintenance dredging. The Federal Fiscal Year 2007 budget included \$875,000 for New River Inlet. It is the only inlet in the region that was included in the Federal budget due to needs of maintaining a safe harbor entrance between Masonboro Inlet and Beaufort Inlet.

1.3 PROJECT OBJECTIVES

The Town of North Topsail Beach is seeking Federal and State permits to allow implementation of a non-Federal shoreline and inlet management project that would preserve the Town's tax base, protect its infrastructure, and maintain its tourist oriented economy (see Section 1.6 for details). The total assessed tax value of property within the corporate limits of North Topsail Beach is approximately \$1.5 billion based on the 2007 reappraisal. Of this total tax base, \$0.8 billion is situated within a 150- to 400-ft wide strip of land generally located between the frontal dune and the ocean front roads. Primary State Route NC 210 is the oceanfront road south of the Town Hall while New River Inlet Road extends from the Town Hall to New River Inlet.

Based on a 14 August 2007 survey by North Topsail Beach Coastal Area Management Act (CAMA) Local Permit Officer (LPO), 31 residential structures located on North Topsail Beach were considered to be imminently threatened as defined by State Standard Rule 15A NCAC 7H .0308 (NCDCM, 2007b) (see Table 1 for details). The basic premise of this rule is that a structure in the Ocean Hazard Area is considered imminently threatened when its foundation is less than 20 feet from the toe of the erosion scarp (see Figure 2 as depicted in the North Carolina CAMA Handbook [2003]). Ten (10) additional homes have been condemned on the north end of the island due to extensive storm damage and erosion. Figure 3 depicts the location of each threatened and condemned structure. According to the North Carolina Division of Coastal Management (NCDCM), 26 permits have been issued for sandbags since 1992 and in May 2008 exposed sandbags in North Topsail Beach are required to be removed (J. Giles, pers. comm.). The potential loss of these threatened structures would reduce the total tax base by \$63 million.

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Table 1
Analysis of Threatened Structures on North Topsail Beach

Address ^a	Property Value ^b	Structure Value ^b	Total Value
538 Ocean Drive	\$950,000	\$131,437	\$1,081,437
168 Topsail Road	\$960,000	\$75,067	\$1,035,067
204 Topsail Road	\$240,000	\$65,614	\$305,614
230 Topsail Road	\$377,500	\$90,974	\$468,474
306 Topsail Road	\$428,000	\$48,509	\$476,509
340 Topsail Road	\$428,000	\$68,912	\$496,912
364 Topsail Road	\$320,000	\$112,824	\$432,824
464 Topsail Road	\$216,000	\$62,722	\$278,722
486 Topsail Road	\$200,000	\$37,125	\$237,125
3808 Island Drive	\$725,000	\$86,015	\$811,015
1074 NRI Road	\$774,000	\$176,090	\$950,090
1204 NRI Road	\$690,000	\$250,754	\$940,754
1214 NRI Road	\$690,000	\$242,212	\$932,212
1232 NRI Road	\$129,200	\$79,964	\$209,164
1234 NRI Road	\$360,000	\$182,736	\$542,736
1236 NRI Road	\$400,000	\$170,983	\$570,983
1238 NRI Road	\$400,000	\$170,983	\$570,983
1822 NRI Road	N/A	\$10,945,810	\$10,945,810
1768 NRI Road	\$1,350,000	\$503,324	\$1,853,324
2174 NRI Road	N/A	\$4,761,958	\$4,761,958
2182 NRI Road	N/A	\$4,769,636	\$4,769,636
2196 NRI Road	N/A	\$4,845,498	\$4,845,498
2210 NRI Road	N/A	\$4,923,690	\$4,923,690
2224 NRI Road	N/A	\$4,831,474	\$4,831,474
2240 NRI Road	N/A	\$4,917,870	\$4,917,870
2250 NRI Road	N/A	\$4,974,668	\$4,974,668
2264 NRI Road	N/A	\$4,839,947	\$4,839,947
2278 NRI Road*	\$100	N/A	\$100
2278-1 NRI Road*	\$100	N/A	\$100
2286-1 NRI Road*	\$100	N/A	\$100
2286-2 NRI Road*	\$100	N/A	\$100
2292-1 NRI Road*	\$100	N/A	\$100
2292-2 NRI Road*	\$100	N/A	\$100
2296 NRI Road*	\$100	N/A	\$100
2302 NRI Road*	\$100	N/A	\$100
2320 NRI Road*	\$100	N/A	\$100
2320-2 NRI Road	\$105,400	\$61,843	\$167,243
2314 NRI Road	\$192,000	\$98,411	\$290,411
2324 NRI Road	192,000	\$104,204	\$296,204
2324-1 NRI Road	\$192,000	\$121,160	\$313,160
Total	\$10,320,100	\$52,752,414	\$63,072,514

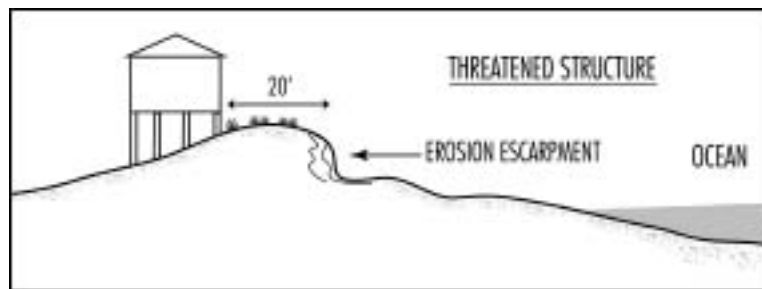
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^a Information based on the 7 June 2007 field survey and additional correspondence received on 14 August 2007 by Deborah Hill, North Topsail Beach CAMA LPO and Jon Giles, CAMA Field Representative.

^b Property value and Structure value information was provided by Shelia Cox, North Topsail Beach Project Coordinator; Onslow County GIS database (<http://maps.onslowcountync.gov/>).

N/A denotes those parcels and structures in which a value was not provided in the Town's tax database or through the Onslow County GIS database.

* These structures have been previously condemned and are currently under litigation.



**Figure 2 – Diagram Depicting Imminently Threatened Structures
(NCDCM, 2003a)**

1.3.1 Project Needs and Opportunities

The goals and objectives of the North Topsail Beach Shoreline Protection Project are as follows:

- Provide long-term stabilization of the oceanfront shoreline located immediately south of New River Inlet;
- Provide short-term protection to the 31 imminently threatened residential structures over the next zero to five years;
- Provide long-term protection to Town infrastructure and approximately 1,200 homes;
- Reduce or mitigate for property damage associated with shoreline erosion along 11.1 miles of oceanfront shoreline of North Topsail Beach;
- Improve recreational opportunities along the Town's oceanfront shoreline;
- Ensure material utilized for shore protection is beach compatible;
- Maintain the Town's tax base by protecting existing development and infrastructure on the oceanfront shoreline of North Topsail Beach; and

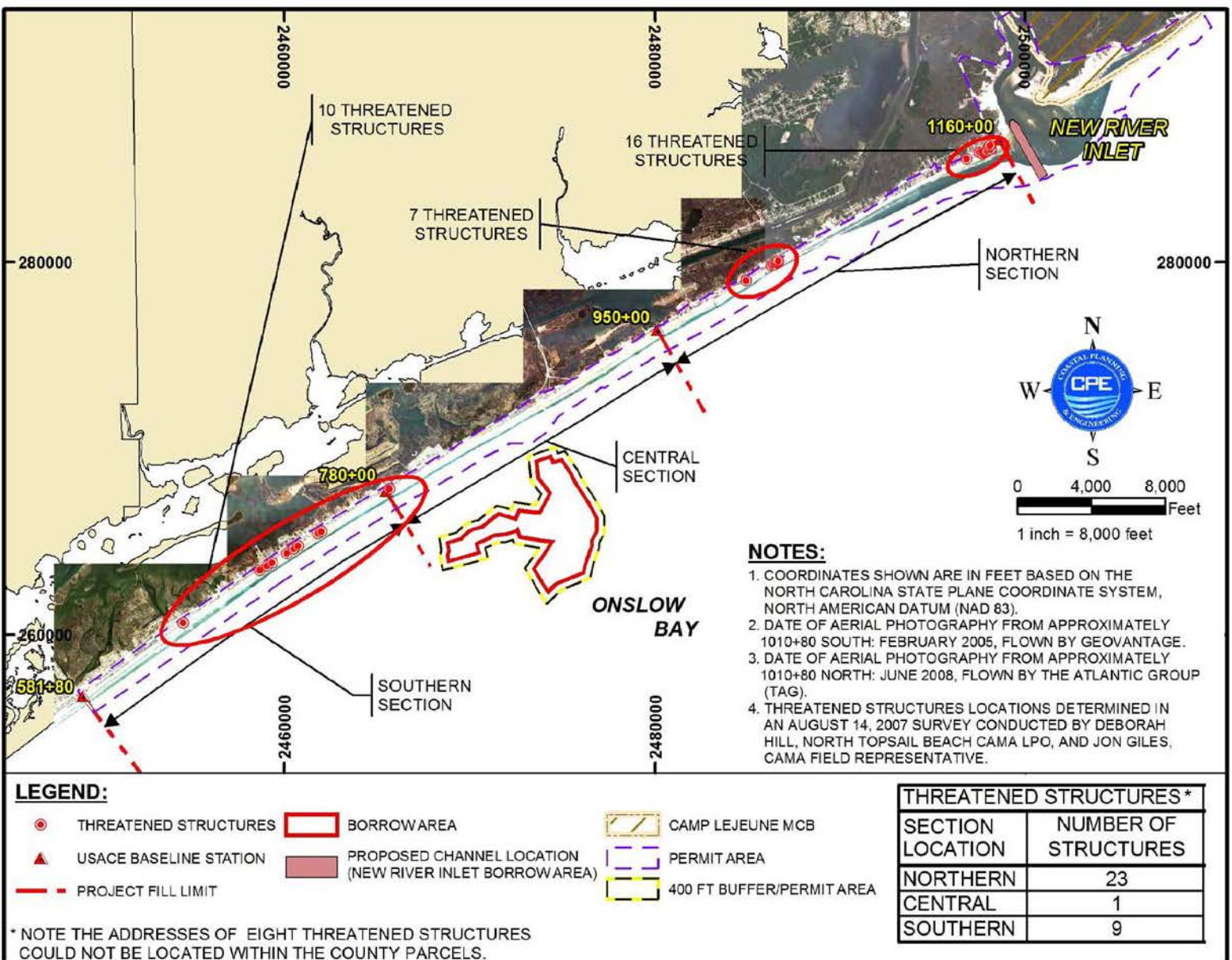


Figure 3 – 2007 Survey Results of Imminently Threatened Structures in the Town of North Topsail Beach

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- Balance the needs of the human environment with the protection of existing natural resources.

1.4 RELATED ACTIONS

The following is a summary of activities that have or potentially could have an impact on New River Inlet and the oceanfront shoreline of Topsail Island.

(a) The USACE – Wilmington District is conducting a Federal feasibility study for storm damage reduction and shoreline protection for a 50-year period of analysis along the southern 3.85 miles of oceanfront in North Topsail Beach. The Surf City and North Topsail Beach Shore Protection Project Feasibility Report (USACE 2006) discloses that the most practicable plan of protection is a berm and dune project extending from the southern edge of the Coastal Barrier Resources System (CBRS) (Topsail Unit, L06). The tentatively selected National Economic Development Plan (NED) consists of a sand dune constructed to an elevation of 14 feet above the 1988 North Atlantic Vertical Datum (NAVD88), fronted by a 50-foot wide beach berm constructed to an elevation of 7 feet above NAVD88. Renourishment will occur on a 4-year cycle. If protection of this area is found to be in the Federal interest, the project could be implemented in November 2014 (G. McIntosh, pers. comm.). For initial construction, North Topsail Beach's cost share would be \$16.4 million of the \$118 million total (October 2008 cost estimate). That is 40% of the non-federal share of \$39.6 million. North Topsail Beach's share over the life of the project is more complex since cost sharing formulas change from initial construction to renourishment (G. McIntosh, pers. comm.).

(b) Funding for maintenance of navigation channels, including the channel from the AIWW to New River Inlet (Cedar Bush Cut), the ocean bar channel of New River Inlet, and the AIWW, has been problematic due to a decreased Federal budget and could result in cessation of maintenance dredging or at best, sporadic maintenance activities. Material removed from Cedar Bush Cut and from the intersection of Cedar Bush Cut with the AIWW has, in the past, been deposited on the north end of North Topsail Beach. If these operations cease, the erosion stress on the Town's northernmost shoreline would increase. Refer to Sections 1.2.1 and 1.2.2.

1.5 ISSUES ELIMINATED FROM FURTHER ANALYSIS

The North Topsail Beach Shoreline Protection Project does not focus on improving navigation through New River Inlet. However, alternatives for responding to the Inlet channel erosion problem will be evaluated with respect to any negative or positive effects on navigation interests that regularly utilize the Inlet. Navigation improvements for New River Inlet would have to be authorized

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either under Section 107 Authority provided by the Rivers and Harbors Act of 1899 or as a result of a specific Congressional authorization for a Federal Feasibility Study.

1.6 DECISIONS TO BE MADE

The Town of North Topsail Beach Board of Alderman held a \$34 million beach improvement bond referendum on 7 November 2006 for all registered voters. The bond referendum did not pass based on funding structure. Due to the result of the bond referendum and voter comments, a Mayor's Financial Task Force was created and has coordinated several sources of funds to finance the shoreline protection project. Several of these funding sources include but are not limited to: 1) an annual Capital Reserve Fund which includes an Onslow County sales tax refund, 2) an annual North Topsail Beach 3% occupancy tax, 3) an annual portion (\$0.03) of North Topsail Beach property taxes, 4) a one-time NCDENR Water Resources Development Grant received upon completion of Phase I, 5) Onslow County portion of occupancy tax based on an inlet cost share program pending demonstration of successful completion of Phase I, and 6) a one-time Beach Nourishment surplus fund. The Town of North Topsail Beach intends to apply for State Grant monies for each Phase of the project. The Town will also continue to request financial assistance from Onslow County (S. Cox and D. McCartney, pers. comm.).

This Environmental Impact Statement will evaluate a full range of alternatives for responding to the erosion associated with changes in the position and orientation of the New River Inlet main ebb channel. Each alternative will be evaluated for its ability to satisfy the stated project goals and objectives, as well as the environmental, economic, and social consequences associated with each alternative.

1.7 PERMITS, LICENSES AND ENTITLEMENTS

The following section includes a description of applicable Federal and State laws associated with the North Topsail Beach Shoreline Protection Project. This EIS document has been prepared to satisfy both the National Environmental Policy Act (NEPA) and the North Carolina State Environmental Policy Act (SEPA) requirements in accordance with the laws in Sections 1.7.1 and 1.7.2, respectively. See Section 5.0 – Table 21 for the associated compliance status pertaining to each applicable law described below.

1.7.1 National Environmental Policy Act of 1969

The National Environmental Policy Act (42 U.S.C. 4321; 40 C.F.R. 1500.1) includes six fundamental objectives that have been developed since its enactment in 1970. These objectives include: supplemental legal authority;

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procedural reform; disclosure of environmental information; resolution of environmental problems; foster intergovernmental coordination and cooperation; enhance public participation in governmental planning and decision making (Bass *et al.*, 2001). The Final EIS has been developed based on the discussions and comments received during the project scoping and coordination efforts, as well as from the Draft EIS released in November 2007 (Appendix A). The proposed project will be in full compliance with NEPA.

1.7.2 Rivers and Harbors Act of 1899

Section 10 of the Rivers and Harbors Act states that “it shall not be lawful to excavate or fill.....alter or modify the course, location, condition, or capacity of, any port roadstead, haven, harbor, canal, lake, harbor of refuge, or enclosure within the limits of any breakwater, or of the channel of any navigable water of the United States unless the work has been recommended by the Chief of Engineers and authorized by the Secretary of War....” (USACE, 2006a).

1.7.3 Clean Water Act of 1972

Section 404 of the Clean Water Act established a permit program to regulate the discharge of dredged and fill material into waters of the U.S., including wetlands. Additional activities regulated under this program include dams, farming and infrastructure along highways, roads and airports in waters of the U.S. This program is jointly administered by Environmental Protection Agency and the USACE (USEPA, 2006).

Section 401 of the Clean Water Act includes the delegation of Federal authority to the State of North Carolina to issue a 401 Water Quality Certification. The 401 Water Quality Certification is applicable to all projects that require a Federal permit (i.e., Section 404 Permit) for discharge of dredge material into waters and wetlands of the U.S. The 401 Water Quality Certification Program is administered by the North Carolina Division of Water Quality (NCDWQ) to prevent the degradation of waters in the State and to prevent any violations of the State water quality standards. Through the State Clearinghouse process, NCDWQ provided comments dated 8 February 2008 in which concerns over potential impacts to hardbottoms were identified. Consultation regarding the addition of the upland disposal area (Island \$143) took place in February 2009.

1.7.4 Endangered Species Act of 1973

Coordination with the US Fish and Wildlife Service (USFWS) and NOAA National Marine Fisheries Service (NMFS) includes consultation under Section 7 of the Endangered Species Act of 1973, as amended. Both USFWS and NMFS provided comments on the Draft EIS by letters dated 6 February 2008 and 15 February 2008, respectively. This FEIS document reflects changes as

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recommended in their letters. A draft Biological Assessment has been prepared and will be circulated to both NMFS and USFWS for their concurrence.

1.7.5 Coastal Barrier Resources Act and Coastal Barrier Improvement Act of 1990

Most of the northern 7.25 miles of the Town lies within the Coastal Barrier Resource System (CBRS), which was established pursuant to the Coastal Barrier Resource Act of 1982 (CBRA-82) and the Coastal Barrier Improvement Act of 1990 (CBIA-90).

The purpose of these two acts is to restrict Federal expenditures and financial assistance on undeveloped coastal barrier islands that would encourage development. The USFWS is the Federal agency responsible for administering the CBRA. The USFWS developed the CBRS boundaries in North Topsail Beach following the passage of CBRA-82 and included all undeveloped areas on the barrier islands that existed at that time. As a result, all except two relatively small areas along the northern end of North Topsail Beach were included in the CBRS. Since the southern 3.85 miles of the Town was already developed, it was excluded from the CBRS designations. The approximate locations of the CBRS boundaries on North Topsail Beach are shown in Figure 4 below. The two areas in the northern 7.25-mile segment excluded from the CBRS are indicated in Figure 4 and include a 1,950-foot segment beginning approximately 1,500 feet southwest of New River Inlet and a 1,900-foot segment that begins approximately 8,600 feet southwest of the Inlet.

There are exceptions to the use of Federal monies within a CBRA Unit. Certain activities, which are exempt under Section 6 "Exceptions" of the CBRA include: 1) projects for the study, management, protection, and enhancement of fish and wildlife resources and habitat; 2) establishment, operation, and maintenance of air and water navigation aids and devices; 3) projects under the Land and Water Conservation Fund Act of 1965 and the Coastal Zone Management Act of 1972; 4) scientific research, including but not limited to aeronautical, atmospheric, space, geologic, marine, fish and wildlife and other research, development, and

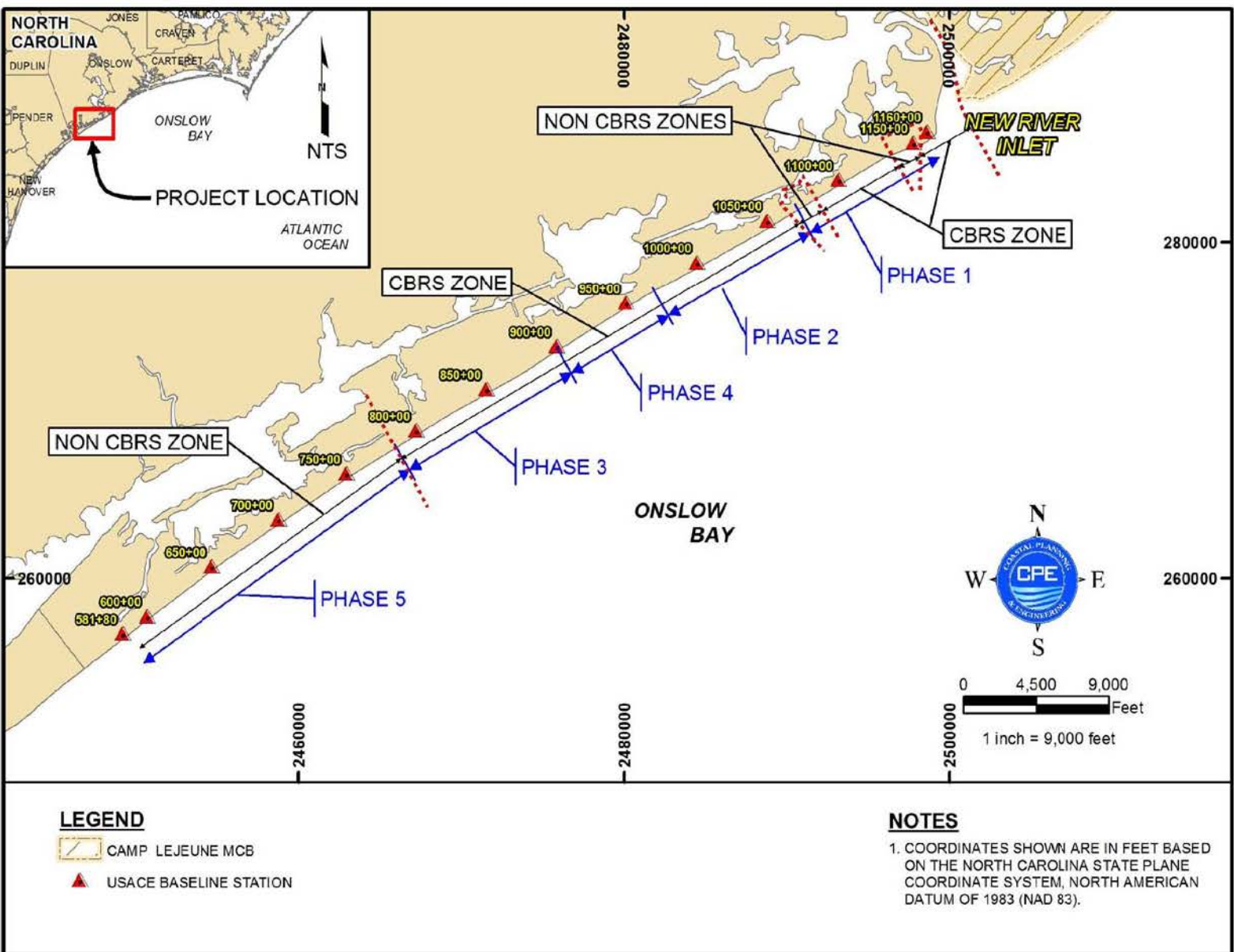


Figure 4 – CBRS Zones

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applications; 5) assistance for emergency actions essential to the saving of lives and the protection of property and the public health and safety, if performed pursuant to the Disaster Relief Act of 1974; 6) the maintenance, replacement, reconstruction, or repair, but not the expansion, of publicly owned or publicly operated roads, structures, or facilities; 7) nonstructural projects for shoreline stabilization that are designed to mimic, enhance, or restore natural stabilization systems (U.S. Congress, 1982).

1.7.6 National Historic Preservation Act of 1966 (As Amended)

Archival research, field work and coordination with the North Carolina State Historic Preservation Officer (SHPO), have been conducted in accordance with the National Historic Preservation Act of 1966 (Public Law 89-665), the National Environmental Policy Act of 1969 (Public Law 11-190), Executive Order 11593, the Advisory Council on Historic Preservation Procedures for the protection of historic and cultural properties (36 CFR Part 800) and the updated guidelines described in 36 CFR 64 and 36 CFR 66.

The North Carolina Office of State Archaeology (OSA) protects endangered archaeological sites on private or public lands through enforcement of the North Carolina Archaeological Resources Protection Act (G.S. 70, article 2), the North Carolina Archaeological Records Program (G.S. 70, article 4), and the "Abandoned Shipwreck Law" (G.S. 121, article 3).

Coordination with the SHPO has occurred during the development of the project to ensure that the proposed project is in compliance with the National Historic Preservation Act. SHPO concurred with the recommendation of Tidewater Atlantic Research (TAR), the Town's archaeological consultant, as stated in a letter dated 12 March 2008 that no further archeological investigation be conducted within the area of the offshore borrow area or New River Inlet.

1.7.7 Magnuson-Stevens Fishery Conservation and Management Act of 1996

The Magnuson Fishery Conservation and Management Act of 1976 (MSFCMA) was enacted by the U.S. Congress to protect marine fish stocks and their habitat, prevent and stop overfishing and minimize bycatch. Congress defined Essential Fish Habitat (EFH) as "those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity." The MSFCMA requires that EFH be identified for all fish species federally managed by the Fishery Management Councils and the NMFS.

Eight (8) Fishery Management Councils were established under the MSFCMA to manage living marine resources within Federal jurisdiction and each council is required to describe and identify EFH designations in their respective regions.

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Each of these councils is responsible for developing a Fishery Management Plan (FMP) to achieve specified management goals for fisheries. The FMP includes data, analyses, and management measures (including guidelines for harvest) for a fishery.

A draft EFH assessment was submitted to NMFS Habitat Conservation Division for review in June 2006. Coordination with NMFS will continue to ensure project compliance with the MSFCMA. A final EFH has been prepared and will be provided to NMFS for concurrence.

1.7.8 Fish and Wildlife Coordination Act of 1958

The Fish and Wildlife Coordination Act of 1958, as amended, mandates that Federal and State agencies cooperate “to protect, rear, stock, and increase the supply of game and fur-bearing animals....study the effects of domestic sewage, trade wastes, and other polluting substances on wildlife.” The Act also requires consultation with the Bureau of Fisheries, USFWS and State fish and wildlife agencies where the “waters of any stream or other body of water are proposed or authorized, permitted or licensed to be impounded, diverted...or otherwise controlled or modified” by any agency under a Federal permit or license. Additional amendments to the Act have “permitted lands valuable to the Migratory Bird Management Program to be made available to the State agency exercising control over wildlife resources (USFWS, 2006i).

1.7.9 Migratory Bird Treaty Act of 1918

The Migratory Bird Treaty Act (50 CFR 10.13) was enacted in 1918 to make the following actions against migratory birds illegal: take (pursue, hunt, shoot, poison, wound, kill, capture, trap or collect), possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of a bird unless permitted under Federal authorization by the USFWS (USFWS, 2006j).

1.7.10 Coastal Zone Management Act of 1972

Enacted by Congress in 1972, the Coastal Zone Management Act does not require, but encourages that each State preserve, protect, restore or enhance natural coastal resources including; wetlands, floodplains, estuaries, beaches, dunes, barrier islands and coral reefs, as well as the fish and wildlife that utilize these resources. Since this Act is voluntary, any State that implements a coastal management program as defined in of this Act will receive Federal financial aid.

The NCDZCM has developed and enforces a coastal management plan with the rules and policies that supports the ideals and concepts of the CZMA. The NCDZCM enforces this Act using the rules and policies of the Coastal Area

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Management Act of 1974 (enabled and delegated in 1972; adopted and implemented in 1974).

1.7.11 North Carolina Environmental Policy Act (As Amended)

This FEIS has been developed in accordance with the requirements of the State Clearinghouse review process under the North Carolina Environmental Policy Act (NCEPA, G.S. 113A-1), based upon the agreement between the NCDCM and the USACE. Upon the development and submittal of the FEIS, additional filing under the NC EPA will not be required.

1.7.12 North Carolina Coastal Area Management Act of 1974

The North Carolina Coastal Area Management Act (CAMA) (§ 113A-100) was implemented to preserve the physical, aesthetic, cultural and recreational values, including the management of land and water resources in North Carolina's 20 coastal counties. Under CAMA, permits are necessary for development type projects proposing work in any Areas of Environmental Concern (AEC) established by the Coastal Resources Commission. An AEC includes areas of natural importance such as 1) estuarine and ocean systems, 2) ocean hazard system, 3) public water supplies, and 4) natural and cultural resource areas. Under CAMA, the proposed work cannot cause significant damage to one or more of the historic, cultural, scientific, environmental or scenic values or natural systems identified in the AECs listed. In addition, significant cumulative effects cannot result from a development project (NCDCM, 2003).

An application for a Major CAMA Permit was filed with the State however due to modifications to the project; the application was put on hold until further notice.

1.7.13 North Carolina Dredge and Fill Law

Under CAMA (§ 113-229), the North Carolina Division of Coastal Management regulates projects that involve excavation or filling in any estuarine waters, tidelands, marshlands, or State-owned lakes. An applicant proposing work in such lands must obtain a permit from both the North Carolina Department of Environment and Natural Resources and the USACE (NCDCM, 2006).

1.7.14 North Carolina Surface Water Quality Standards

The NCDWQ Surface Waters and Wetlands Standards (North Carolina Administrative Code 15A NCAC 02B .0100 & .0200) was implemented for assigning and regulating water quality standards for waters in the State of North Carolina. The water column in the North Topsail Beach project area is classified as both SA waters and Outstanding Resource Waters. Class SA waters are surface waters suitable for shellfishing for market purposes. Waters designated

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as Class SA have specific water quality standards that must be met, as well as the water quality standards assigned to both Class SB and SC waters. Outstanding Resource Waters (ORW) includes waters of exceptional water quality. Waters designated as ORW and/or Class SA waters are also classified as High Quality Waters (Hqw) (NCDWQ, 2003).

Based on the above classifications, water quality standards applicable to the project area include: 1) turbidity in the receiving water shall not exceed 25 Nephelometric Turbidity Units (NTU), 2) changes in salinity due to hydrological modifications shall not result in the removal of the functions of a Primary Nursery Area (PNA), 3) temperature shall not be increased above the natural water temperature by more than 0.8°C (1.44°F) during the months of June, July or August nor more than 2.2°C (3.96°F) during other months, and in no cases to exceed 32°C due to the discharge of heated liquids, 4) dissolved oxygen cannot decrease below 5.0 mg/l, except in “poorly flushed tidally influenced streams or embayments, or estuarine bottom waters” which may have decreased values from natural causes, and 5) pH levels “shall be normal for the waters in the area, which generally range between 6.8 and 8.5 except that swamp waters may have a pH as low as 4.3 if it is the result of natural conditions” (NCDWQ, 2006).

1.7.15 Ownership of Lands

In an advisory opinion provided by the NC Office of the Attorney General regarding ownership of accreted lands in Bogue Inlet (September 15, 2003) “Advisory Opinion concerning ownership of dredged fill and accretions on Bogue Banks at Bogue Inlet; N.C. Gen. Stat. §§ 146-6”), the State Attorney General determined land raised above mean high water in the areas north of the COLREGS Line (i.e., the Inlet shoreline) either as a direct or indirect result of the project would be owned by the adjacent upland property owners.

With regard to the ocean shoreline, North Carolina General Statute §§ 146-6(f) provides that “*the title to land in or immediately along the Atlantic Ocean raised above the mean high water mark by publicly financed projects which involve hydraulic dredging or other deposition of spoil materials or sand vest in the state.*” Since the proposed project would provide nourishment along the entire 11.1 mile ocean shoreline of North Topsail Beach, thus raising the land above the mean high tide mark, ownership of the entire ocean shoreline of North Topsail Beach would revert to the State of North Carolina.